Because of the increased number of sanctuaries, as a result of the Oyster Restoration Plan, there will be amplified pressure on the remaining public oyster bars. Consequently, I am considering supplementing my income with oyster aquaculture. If I fail to act, I am concerned I will lose opportunities to the individuals and businesses that are better financed and prepared to make the aquaculture transition. I have contacted numerous researchers, state employees, and stakeholders, yet I still have not been able to resolve many of my questions. By addressing the OAC, I hope to spotlight some of my concerns, so that recommendations and resources can be provided to the appropriate agencies and individuals who are able to help myself and other watermen considering the transition into aquaculture.

Background Information

Available Resources: a relatively young team (most watermen are nearing retirement age) located on the Patuxent River with: two TFL licenses, two oyster harvester licenses, a Seafood Dealer's license, 42' commercial boat equipped with a mast and boom, dredge, patent tongs, shaft tongs, GPS, depth finder, a county dock (not to be used for storage) available for loading/unloading and docking boat, an intimate knowledge of the local public oyster bars and bottom, an above average understanding of the oyster reproduction process.

Unavailable Resources: a lease, adequate funding, oyster shell, waterfront property, and laborers.

The most likely form of aquaculture for us (and others with similar resources) would be a bottom lease. After reviewing numerous oyster publications and contacting many individuals who work closely with oyster industry, research, and regulations, I have a few concerns. **Please consider the following questions to be specific to bottom aquaculture.**

- "A Framework for Native Oyster Aquaculture Development in Maryland," notes "this [bottom cultivation] would be an unlikely enterprise for individual watermen without significant financial support" (11). I do not have the resources like the large companies in VA who have begun aquaculture. During the Department of Natural Resources Oyster Open Houses programs were mentioned for funding. I have been unable to identify any programs (in writing), grants or loans, available to individual harvesters considering aquaculture. I would like to request the OAC recommends an individual or agency responsible for providing a specific list of viable funding programs as well as educational resources as soon as possible.
- The research article claims the market price ("with a standard deviation of $0.06") suggests a bushel price of $27-$63 based on a 300 oyster count bushel (11). My concern is being able to compete with the wild fisheries market. Because bottom cultured oysters would not be a half shell market product, I would be competing with the current shucking market of $25-$35. This (bottom cultivated) bushel price would increase if the oysters were smaller and the count per bushel increased. A bottom cultivated oyster market would not be competitive during the regular oyster season. This is not an attractive alternative to wild harvest.
- I understand the suggestion is that oysters on private leases are harvested and marketed outside of the public bar harvest season. I am concerned there is not an oyster market, especially, when selling directly to the public, during the summer months in Maryland. I participate in the commercial fishing and crabbing fisheries during the summer months and aquaculture would interfere with these sources of income.
- In order to "*prepare* the bottom," for aquaculture I must obtain shell. Watermen have not been allocated a fair amount of recovered shell or been provided with feasible or allowable alternatives.
- I do not have waterfront property, which severely limits my ability to set my own spat. This would increase the bushel price (decreasing my ability to be competitive in the market) or reducing my profit per bushel.
- The Calvert Co. Watermen, in partnership with Morgan State University, seeded a bottom lease on the Patuxent River and there was considerable dead loss; samples are being tested to determine the

cause. Poaching did not occur. Dermo is most likely the cause. Historically leases across the state have been abandoned due to disease. This is discouraging for watermen who are considering aquaculture.

- A comprehensive management plan and honest data analysis for sanctuaries would provide watermen with the information necessary to make informed decisions. I have tried to contact the individuals responsible for monitoring these areas (especially on the Patuxent). I did find "An Evaluation of the Maryland Oyster Sanctuaries Monitored by the MDNR Shellfish Program's Fall Oyster Survey" prepared by the Maryland Department of Natural Resources in March of 2005. The report stated, "The population structure on the sanctuaries came to resemble that on open-harvest bars, where the oyster biomass is largely concentrated in sub legal sizes. On the open-harvest bars the market-sized oysters were exploited by watermen, whereas in the sanctuaries the markets were cropped by disease as evidenced by box counts" (5). The report concluded "sanctuary populations tend to look like natural populations in relatively short periods of time, regardless of the degree of habitat rehabilitation or population enhancement through additions of seed oysters.., the likely reason is that those factors causing the severe decline in oyster populations are simply not addressed by eliminating fishing mortality. Oyster diseases don't recognize sanctuary boundaries" (23).

Please consider the following questions to be specific to top-water aquaculture.

- Top-water aquaculture would require a larger initial investment. Again, I have not been able to identify any sources of funding available for watermen who want to transition to aquaculture solely for business purposes.
- To undertake top-water aquaculture I would need to develop a new market, because my current buyers do not desire the more expensive half-shell oyster. The half-shell oyster is a different product from a "shucking oyster" and would need to be marketed as such. Oysters raised by top-water aquaculture have been misrepresented as an alternative to wild harvest oysters.
- Acquiring a location to set spat would help to make an aquaculture business profitable and sustainable, but many watermen do not have waterfront property.
- Obtaining shell is an obstacle for any watermen transitioning to aquaculture.

Again, I want to reiterate a primary concern. Sanctuaries have been designated across the State and will be effective this season. Watermen across the state will be competing for oysters on fewer public bars, but we have not been given ample time or resources to transition to aquaculture. Most importantly, watermen are still unable to obtain a bottom lease through the Department of Natural Resources. Please urge all parties to be mindful of watermen who are struggling with the changes to the oyster industry regulations and those who are considering the transition to aquaculture.

I hope by sharing these thoughts and questions I will add to the oyster restoration dialogue. There are among you individuals who possess a great understanding of the social, environmental, and economical importance of oysters. I appreciate the opportunity to address this commission and I hope to continue working towards a **productive** Oyster Restoration Plan. Watermen are concerned about oyster sustainability; our future depends on it.

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